

PU030180

Serial No.: 10/561,361

Remarks/Arguments

The Office Action mailed September 7, 2007 has been reviewed and carefully considered.

Claim 2 has been canceled without prejudice. Claims 1 and 3-14 have been amended. Claims 1, 3-16 are now pending in this application. .

Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

Claim 13 has been rejected under 35 U.S.C. §101 as being drawn to non-statutory subject matter. Applicant has amended claim 13 to correct the cited deficiency with the same. Reconsideration and withdrawal of the rejection is respectfully requested.

Claims 2, 3-10 and 5 stand rejected under 35 U.S.C. §112, second paragraph, for matters of formality. Claim 2 has been canceled, and claims 1 and 5 have been amended to clarify the use of "time window" to correspond with its use in the specification. Reconsideration and withdrawal of the rejection is respectfully requested.

Claim 1 stands rejected under 35 U.S.C. §102(b) as being anticipated by Wang et al (USP 6,118,817). Claim 1 has been amended, and as such, this rejection is moot. Reconsideration and withdrawal of the rejection is respectfully requested.

Claims 2-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wang et al. in view of Boice et al (USP 5,978,029) as applied

PU030180

Serial No.: 10/561,361

to claim 1, in further view of Wu et al. (USP 7,016,337). Wang et al. discloses a digital video signal encoder and encoding method having adjustable quantization. The "open loop rate control 202" discussed at column 7, lines 50 et seq. are clearly not related to the "iterative loop for selecting one of a plurality of quantization parameter values", and in fact could arguably be said to teach away from the present principles. Wang et al. teaches the open loop rate control adjusting the Q value for each P-frame to achieve a desired size of encoded P-frame. The adjustment of the Q value is does not anticipate the concept of selecting one of a plurality of quantization parameter values for each picture, as recited in claim 1.

Notwithstanding the above, the Examiner has cited Boice et al. for teaching "pre-encoging means for pre-encoding the sequence of pictures for each of a plurality of quantization parameter values (using the calculated statistics, adaptive encoding of the video sequence is then carried out by controlling one of more encoding parameters of the real-time process...."

Referring to Col. 7, lines 19 - 40 of Boice et al., which recite:

As noted initially, encoder performance and/or picture quality may be enhanced in accordance with the principles of this invention through real-time adaptive video encoding. The video encoder is constructed to be adaptive to the video data received as a sequence of frames. In accordance with one embodiment of this invention, two encoding subsystems are employed. A significant advantage of using two encoding subsystems is the ability to analyze the video sequence prior to its real-time encoding. Analysis of the video sequence comprises calculating one or more statistics which can be derived from the video data.

PU030180

Serial No.: 10/561,361

The statistical measures can describe different characteristics of an image frame, for example, busyness of a frame, motion between image frames, scene change or fading, etc. Using the calculated statistics, adaptive encoding of the video sequence is then carried out by controlling one or more encoding parameters of the real-time encoding process. For example, bit allocation, quantization parameter(s), encoding mode, etc., can be changed from frame to frame or macroblock to macroblock within a given frame according to derived statistics of a characteristic (e.g., scene content) of the particular frame(s).

Boice teaches the user of two (2) encoding subsystems to provide the ability to analyze the video sequence prior to its real time encoding. Examples of the "calculated statistics" are "bit allocation, quantization parameter(s), encoding mode, etc." There is no teaching or suggestion in Boice et al. that remotely discusses "pre-encoding means for pre-encoding the sequence of pictures for each of a plurality of quantization parameter values...[emphasis added]". In fact, the teachings of Boice using two encoding subsystems, do not disclose or suggest the concept of pre-encoding anything for each of a plurality of quantization parameter values. At best, Boice et al. teaches that one of the calculated statistics could include a quantization parameter, but even this teaching (taken singly or in combination with Wang et al) fails to suggest the pre-encoding the sequence of picture for each of a plurality of quantization parameter values.

The additional teachings of Wu et al. do not cure the above-cited deficiencies of the combined teachings of Wang et al. with Boice et al. As such,

PU030180

Serial No.: 10/561,361

it is believe amended claim 1 is patentable over the cited patents, taken singly or in any combination.

Independent claims 13 and 14, as originally presented, include this same limitation, and for at least the reasons cited above are believed to be patentably distinct from the combined teachings of Wang et al., Boice et al, and Wu et al.

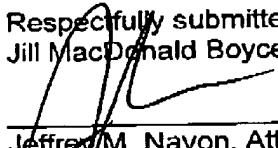
For at least the reasons cited above with respect to independent claim 1 and 14, dependent claims 3-12 and 15-16 are also believe to be allowable.

In view of the foregoing, Applicant respectfully requests that the rejections of the claims set forth in the Office Action of September 7, 2007 be withdrawn, that pending claims 1 and 3-16 be allowed, and that the case proceed to early issuance of Letters Patent in due course.

It is believed that no additional fees or charges are currently due. However, in the event that any additional fees or charges are required at this time in connection with the application, they may be charged to applicant's representatives Deposit Account No. 07-0832.

Respectfully submitted,
Jill MacDonald Boyce, et al.

By:


Jeffrey M. Navon, Attorney
Reg. No. 32,711
(609) 734-6823

Patent Operations
Thomson Licensing LLC
P.O. Box 5312
Princeton, New Jersey 08543-5312

Date:

Dec. 26, 2007